README

**Heatmap folder**

Heatmap codes begin with Heatmap in the names of the files. To run the codes, the .ipynb, .csv, and .h5 files have to be in the same folder. Please change the direction in the line with:

model = keras.models.load\_model(r’somemodel.h5’)

The directions should be where the .h5 files are located. The models are initially located in the Models folder.

Also, the line:

data = pd.read\_csv(r'C:\Users\Rakhat\Documents\dl\age\_gender.csv')

Should contain the direction to the age\_gender.csv file in the brackets.

Furthermore, you should indicate your direction to the images with the names Heatmap1.png or Heatmap2.png in the following line:

filename = r"C:\Users\Rakhat\Downloads\Heatmap2.png"

Except for these, everything else is just clicking the run button.

**Our model with or without augmentation**

The model with augmentation is called Our\_model\_with\_augmentation\_gender+age.ipynb.

The only thing that needs to be changed is the line with:

data = pd.read\_csv('age\_gender.csv')

It should contain the direction to the age\_gender.csv file in the brackets.

Everything else is just clicking the run button.

The results of the model trained on augmented data were not included in the report paper.

For the model without augmentation (Our\_model\_gender+age.ipynb) everything is the same.

**Gender\_prediction\_pretrained folder**

Gender classification codes using pretrained models are .ipynb files with the names that start with Gender.

You only need to change the following line:

data = pd.read\_csv(r'C:\Users\adais\Downloads\age\_gender.csv\age\_gender.csv')

It should contain the direction to age\_gender.csv file.

Everything else is just clicking the run button.

**Age\_prediction\_pretrained folder**

Age detection codes using pretrained models are .ipynb files with the names that start with Age.

You only need to change the following line:

data = pd.read\_csv(r'C:\Users\adais\Downloads\age\_gender.csv\age\_gender.csv')

It should contain the direction to age\_gender.csv file.

Everything else is just clicking the run button.

**Models folder**

Models saved after the evaluations were added to that folder. Those models are also used for T-SNE and Heatmap.

**T-SNE folder**

T-SNE codes begin with T-SNE in the names of the files and are in that T-SNE folder. To run the codes, the .ipynb, .csv, and .h5 files have to be in the same folder. Please change the direction in the line with:

model = keras.models.load\_model(r’somemodel.h5’)

The directions should be where the .h5 files are located. The models are initially located in the Models folder.

Also, the line:

data = pd.read\_csv(r'C:\Users\Rakhat\Documents\dl\age\_gender.csv')

Should contain the direction to the age\_gender.csv file in the brackets.